

INVESTMENT ASSIGNMENT

SUBMISSION

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Abstract

Spark Funds, an asset management company wants to make decision about investment.

The company intends to select the **best sector, countries and suitable investment type** for their investments.

The main constraints for the investment are

1. Investment in the range 5-15million USD per round of investment.
2. Investment sector and country to be identified where most of the investments are made.
3. Only English –speaking countries to be considered for investment.

Approach

1. Data acquisition

- We have taken the data from **crunchbase.com** in the form of **companies** db(companies details), **rounds2** db(funding type and amount) and **mapping** csv(map categories to **8 top level sectors and other category**).

2. Data preparation and clean-up

- Create a master data frame with **merge** of **companies** and **rounds2** db on “**company_permalink**”.
- Clean up the missing values in master df by following approach
 - **raised_amount_usd** – drop the null values as the variance is too high
 - **Country code** and **Categories** – fill the mode values
- Clean up the outliers in **raised_amount_usd** for each funding type by **dropping values above 95 percentile**.

3. Analysis

1. Investment type analysis
2. Country analysis
3. Sector analysis

4. Decision making

- Arrive at a suitable investment option for the company.

Investment Type Analysis

- Objective of the company is to invest in the range **5-15 million USD per round.**
- Average funding across the types – **venture, seed, angel and private equity**
- Pick the **average funding as the most representative value** and which falls in the range 5-15million USD

Country Analysis

- Objective is to pick the country which is **most funded**.
- The country selected should be **English speaking**.
- Prepare a list of top 9 countries in order of total investments received.
- Out of the top 9 list, pick the top 3 countries where English is an official language.

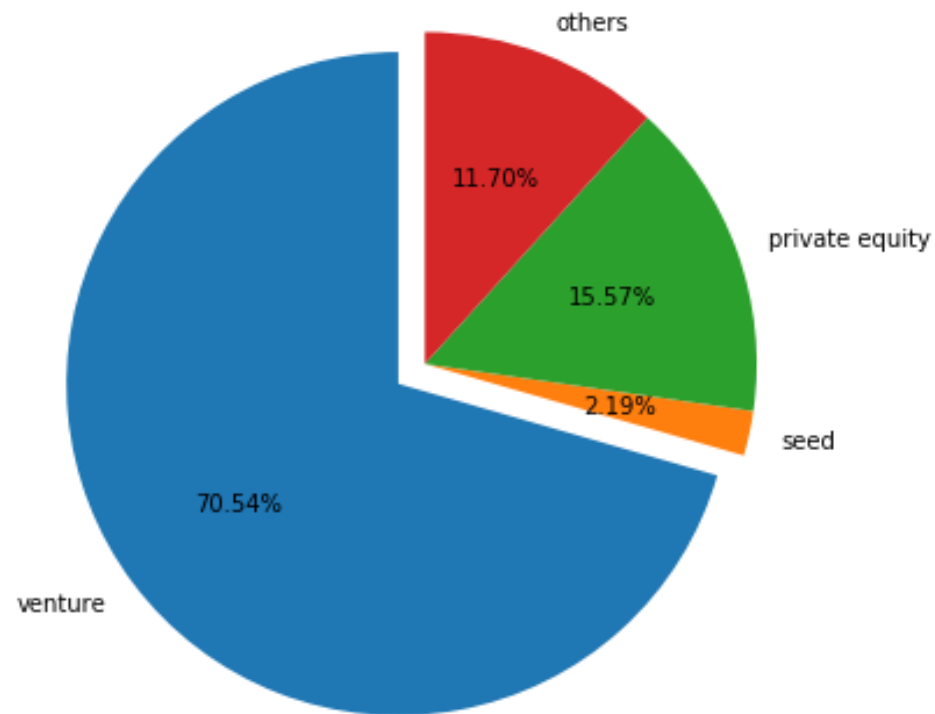
Sector Analysis

- Objective is to find the most heavily invested sector for the selected funding type and countries.
- Prepare a column representing the **primary sector** of a particular company.
- Using mapping csv, prepare a column representing the **main sector** out of the 8 sectors for each company.
- For each of the **three countries** selected, pick the **sectors receiving highest funding** of type selected from **investment type** analysis and investments in the **range of 5-15million USD**.

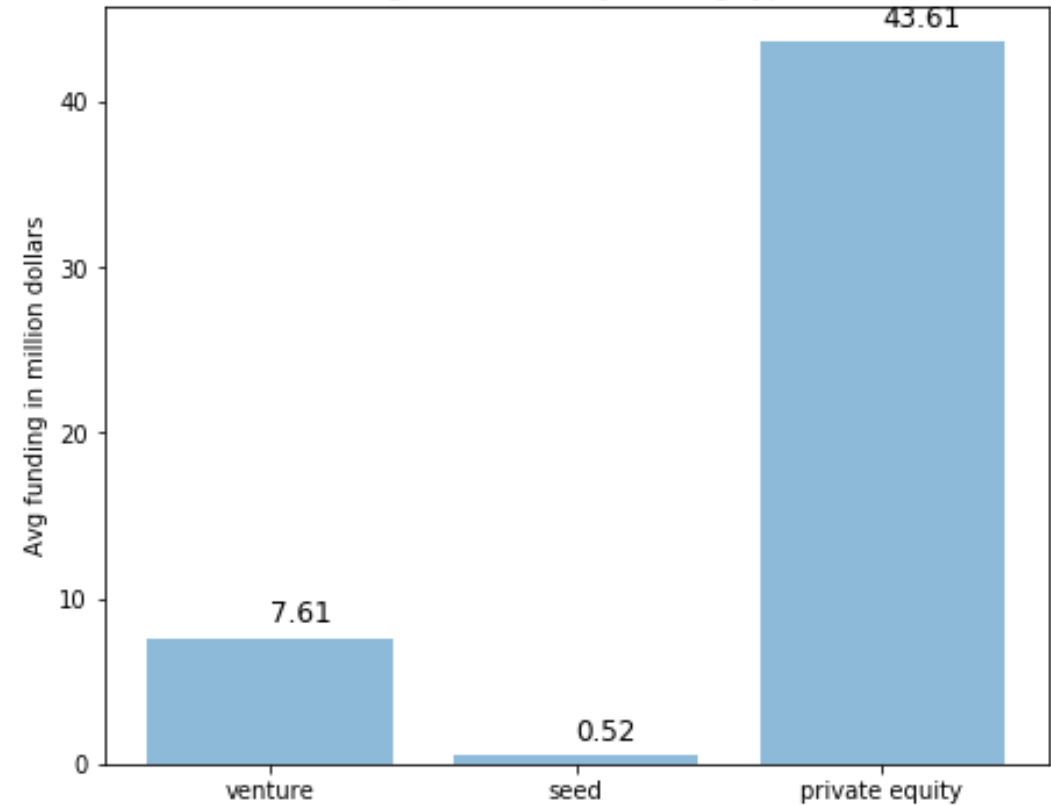
Results – Investment Type

From the analysis – **Venture funding** is most suitable, as its average funding is in the range 5-15million USD. And it is also the most representative investment type with 70.54% funding out of total investments.

Fraction of investments for each funding type out of total investments

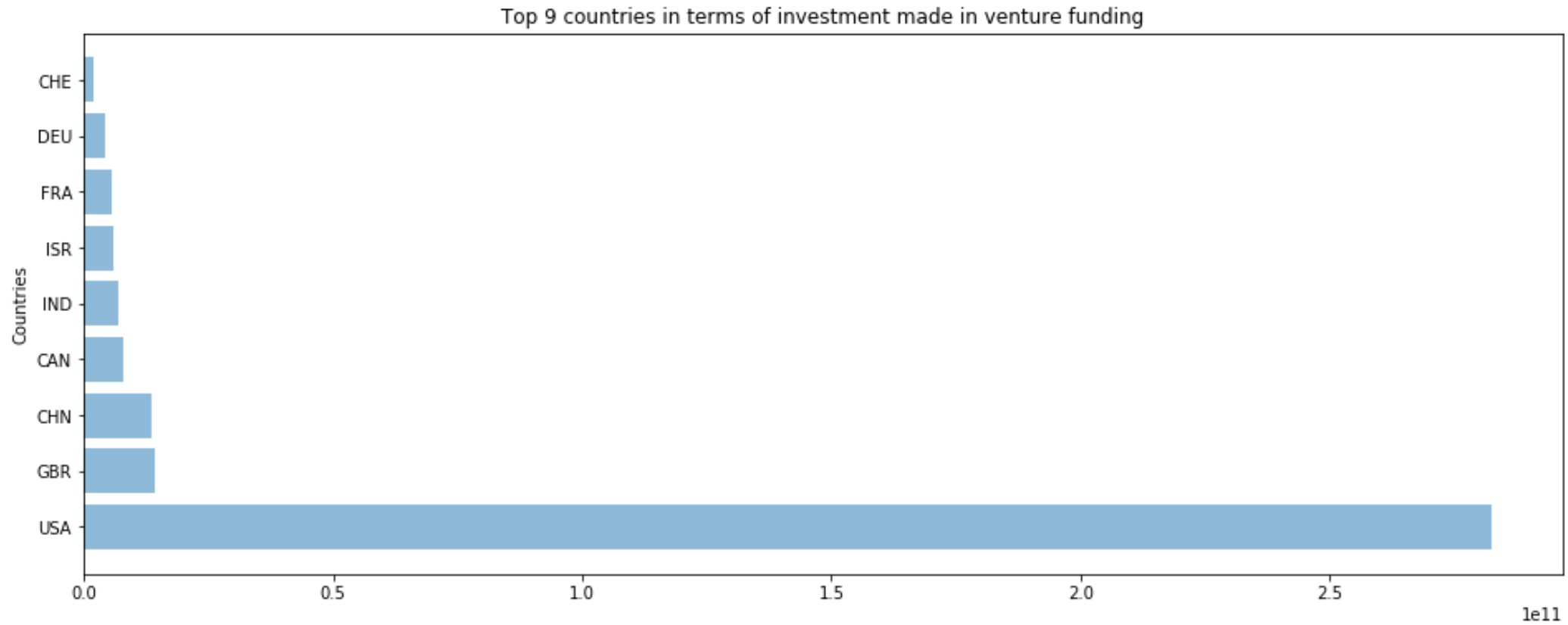


Avg investment by funding type



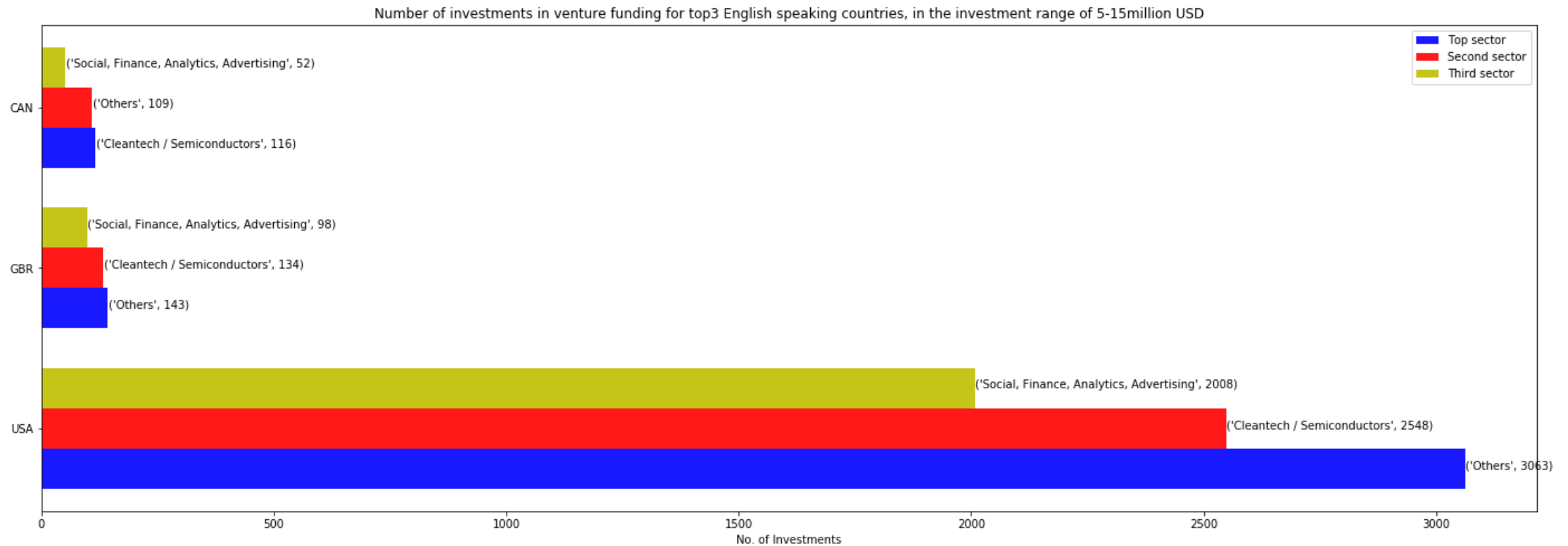
Results – Country

From the analysis – **USA, GBR and CAN** are the most suitable English speaking countries as represented by the total investments received in **venture funding** in these countries.



Results - Sector

From the analysis – following are the **top 3 sectors in the top 3 suitable countries** for the relevant **venture funding in the range of 5-15million USD**.



Conclusion

From the analysis and the ensuing results, it is clear that -

- Venture funding is the most suitable investment type.
- USA, GBR and CAN are the most suitable countries to invest.
- And the top 3 sectors in each of these countries to invest in are
 - USA – Others, Cleantech/Semiconductors, Social Finance Analytics Advertisements
 - GBR – Others, Cleantech/Semiconductors, Social Finance Analytics Advertisements
 - CAN – Cleantech/Semiconductors, Others , Social Finance Analytics Advertisements